

**MIXED WASTE SUBGROUP FY98 ANNUAL REPORT TO THE STCG**  
**MANAGEMENT COUNCIL**

November 18, 1998

During FY98, the Mixed Waste (MW) Subgroup had the following accomplishments, listed below the related STCG Mission Statement elements.

**MISSION STATEMENT - Element 1**

Function by involving user organizations (both DOE and the contractors), technology providers, regulators, American Indian Tribes, and stakeholders, and promoting broad information exchange among all interested parties. Maintain a helpful attitude and serve as a conscience for technology improvement at Hanford. Contribute to DOE-wide communications and lessons learned.

**MW Subgroup Accomplishments**

- Moses Jaraysi presented information on the Washington State Ecology Certification program of which one task, which he is working on, deals with certifying the use of plasma arc for thermal waste treatment.

**MISSION STATEMENT - Element 2**

Identify, prioritize using systems analysis, and seek consensus on Hanford Site and program-specific problems, science and technology needs, and requirements. Recognize baseline schedule insertion points for technology. Focus on the baseline, but also identify technologies to support potential baseline alternatives if they offer risk reduction benefits or high financial return on investment by improvements in environmental, safety, or health protection. Devote 20% of the STCG effort to science needs and 80% to technology needs and deployment.

**MW Subgroup Accomplishments**

- Prepared and endorsed the package of FY98 MW science and technology needs that were submitted to the Mixed Waste Focus Area (MWFA).
- Prepared and endorsed the package of FY99 MW science and technology needs that will soon be submitted to the MWFA. For the FY99 needs, the liquid effluent treatment facility and the 200 Area laboratory group needs were identified and included in the submittal.
- Prepared and endorsed the Spent Nuclear Fuel technology needs for FY99.

### **MISSION STATEMENT - Element 3**

Be a forum for assessing and recommending potential technologies for application at Hanford. Look for technologies that provide improved endstates, effectiveness, improved schedules, or improved costs in accomplishing the required results. Also look for technologies to reduce surveillance and maintenance costs while maintaining safe operations. Focus on life-cycle costs and benefits; improvements in environmental, safety, or health protection; and improvements in performance, pollution prevention, and waste minimization relative to alternative remedies. Make appropriate referrals for vendors (e.g., to DOE or the contractors).

#### **MW Subgroup Accomplishments**

- One ASTD proposal was reviewed entitled “Hanford Deployment of Rapid PCB Screening Technology”. This proposal deals with reducing the cost and time of identifying PCB in the K-Basin sludge waste and the tank waste sent to the private vitrification plant.
- Reviewed and endorsed a proposal prepared by PNNL to meet a high MW technology need at Hanford. The proposal deals with a new technique to assay TRU waste in high radiation fields and was sent to the MWFA for funding.
- The following technologies were examined by the subgroup for application at Hanford: microencapsulation of salt waste with polyester resins, electrically switched ion exchange, self-assembled monolayers on mesoporous supports, DC arc furnace, ground penetrating radar, sol-gel stabilization, glow discharge process for organics destruction, direct chemical oxidation, and molten-salt oxidation.
- Subgroup members took part in a MWFA sponsored conference call on the use of direct chemical oxidation for treating Hanford waste. LLNL is developing this technology and will conduct a test of it using surrogate Hanford waste.

### **MISSION STATEMENT - Element 4**

Champion and facilitate demonstration and deployment of innovative, modified, or existing technologies that are new to Hanford and share information with other sites to best leverage all available resources.

#### **MW Subgroup Accomplishments**

- Reviewed 13 technology deployment fact sheets for ongoing work at Hanford.

### **MISSION STATEMENT - Element 5**

Foster technology pull from the DOE-RL and contractor line project customers and eliminate barriers (e.g., "not invented here", resistance to change).

#### **MW Subgroup Accomplishments**

- Discussed a list of planned deployments of new technologies as well as the organizational structure of the MW Technology Steering Group that is set up by FDH Technology Management to oversee this effort.
- Worked with the line project customers at WRAP to determine the requirements needed for a boxed waste assay system for shipments to WIPP. This involves working with WIPP, the MWFA, and DOE-HQ on certification requirements for the assay system as well as working with the WRAP personnel.

### **MISSION STATEMENT - Element 6**

Promote competitive privatization and commercialization by communicating information on Hanford's science and technology needs and schedule insertion points, as well as demonstration and deployment opportunities, to commercial technology providers. Help break barriers to involvement by companies new to Hanford.

#### **MW Subgroup Accomplishments**

- The Pacific Rim Enterprise Center distributed business opportunities developed from Hanford technology needs through the World Wide Web, targeted searches, the National Association of State Development Agencies and at various trade shows.
- The Hanford MW technology needs were presented at the TRICIPE meeting.

### **MISSION STATEMENT - Element 7**

Provide input to decision-makers (e.g., DOE-RL, DOE-HQ, Congress, and heads of regulatory agencies) on Hanford's highest-priority science and technology needs to ensure critical needs are funded. Also, provide feedback to them on the Site's accomplishments.

#### **MW Subgroup Accomplishments**

- Members attended the MWFA product line review meeting at INEEL.
- A letter was sent from the MW Subgroup to the MWFA dealing with the lack of response to Hanford needs.

- Subgroup members attended and presented information at a MWFA sponsored information exchange meeting in Idaho Falls dealing with technologies for the NDA of RH-TRU waste.
- Mike Connelly of the MWFA met with subgroup members to discuss the NDA proposal submitted by PNNL with Subgroup endorsement. This proposal is to meet one of our highest needs at Hanford. The MWFA wants to put together a call for proposals in FY99 to meet this need and others at Hanford.